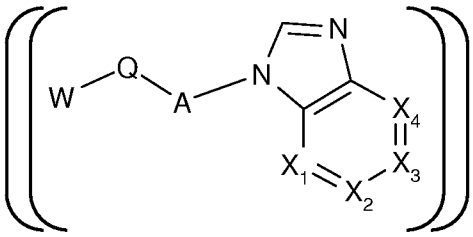
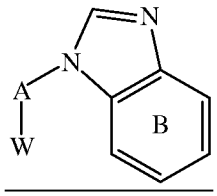
CLAIM AMENDMENTS

1. (currently amended): A compound of the general formula I



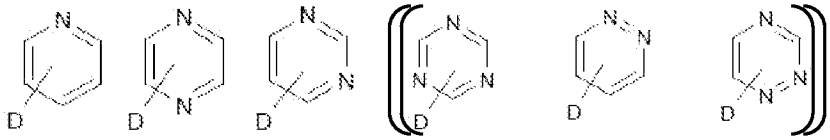


I

or pharmaceutically acceptable prodrugs, salts, hydrates, solvates, crystal forms or diastereomers thereof, wherein:

~~X_1, X_2, X_3, X_4 are each carbon where~~ one carbon of ring B is substituted with Z and the rest of the carbons are independently substituted with Y; ~~or one of X_1, X_2, X_3, X_4 is N, and the others are carbon where one carbon is substituted with Z and the rest independently with Y;~~

A is a ring selected from:



where D is selected from H, C_{1-4} alkyl, halogen, amino;

~~Q is a bond, halogen, C_{1-4} alkyl, O, S, SO, SO_2, CO, CS;~~

W is:

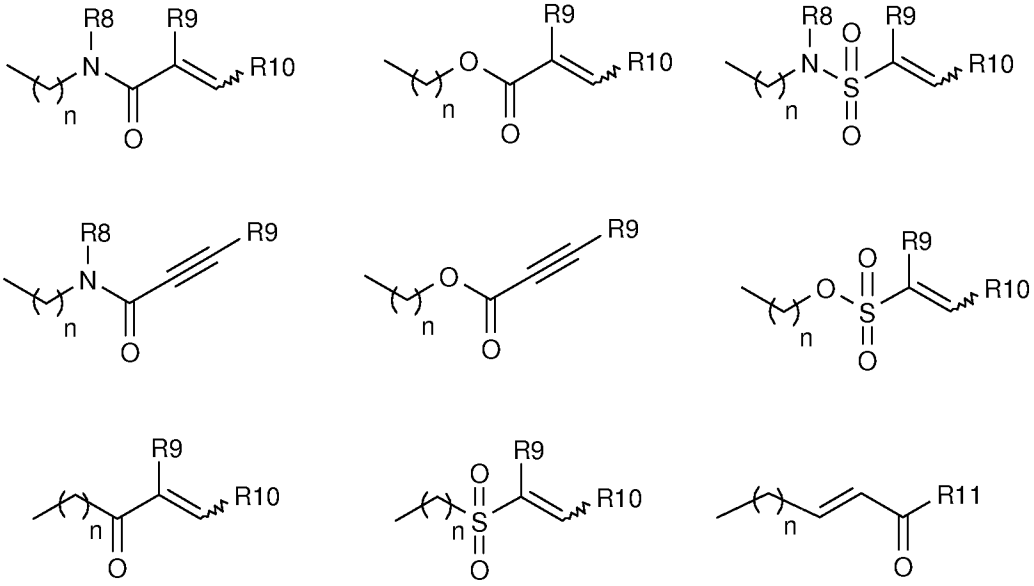
(i) ~~NR1R2 where R1 and R2~~ NR^1R^2 where R^1 and R^2 are independently H, C_{1-4} alkyl, C_{1-4} alkylCF_3, aryl, hetaryl, C_{1-4} alkylaryl, C_{1-4} alkylhetaryl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, cyclohetalkyl, C_{1-4} alkylcycloalkyl, C_{1-4} alkyl cyclohetalkyl, or ~~R1 and R2~~ R^1 and R^2 are joined to form an optionally substituted 3-8 membered ring optionally containing an atom selected from O, S, ~~NR3; and R3~~ NR^3; and R^3 is selected from H, C_{1-4} alkyl, aryl, hetaryl, C_{1-4} alkyl aryl, C_{1-4} alkyl hetaryl, ~~COR4 where R4~~ COR^4 where R^4 is selected from H, C_{1-4} alkyl, aryl, hetaryl; or

(ii) H, C_{1-4} alkyl, aryl, hetaryl, C_{3-8} cycloalkyl, cyclohetalkyl, C_{1-4} alkylaryl, C_{1-4} alkylhetaryl, C_{3-8} cycloalkyl, C_{1-4} alkylcycloalkyl, C_{1-4} alkyl cyclohetalkyl;

Y is H, halogen, CN, CF_3, nitro, OH, C_{1-4} alkyl, ~~C_{1-4} alkylNR5R6~~ C_{1-4} alkylNR^5R^6, C_{1-4} alkylhetaryl, OC_{1-4} alkyl, OC_{2-4} alkylOC_{1-4}alkyl, ~~OC_{1-4} alkylNR5R6~~ OC_{1-4} alkylNR^5R^6,

OC_{1-4} alkylhetaryl, OC_{1-4} alkylcyclohetalkyl, SC_{1-4} alkyl, SC_{2-4} alkylOC_{1-4}alkyl, ~~SC_{1-4} alkylNR5R6, NR5R6, NR5COR6, NR5SO_2R6; and R5 and R6~~ SC_{1-4} alkylNR^5R^6, NR^5R^6, NR^5COR^6, $NR^5SO_2R^6$; and R^5 and R^6 are each independently H, C_{1-4} alkyl, or may be joined to form an optionally substituted 3-6 membered ring optionally containing an atom selected from O, S, ~~NR7 and R7~~ NR^7 and R^7 is selected from H, C_{1-4} alkyl, aryl, hetaryl, C_{1-4} alkylaryl, C_{1-4} alkylhetaryl;

Z is selected from:



~~where R8~~ where R^8 is selected from H, C_{1-4} alkyl;

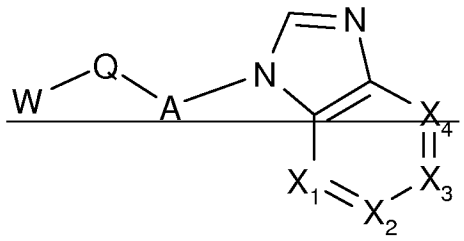
~~R9 and R10~~ R^9 and R^{10} are independently selected from H, C_{1-4} alkyl, ~~C_{1-4} alkylNR12R13, C_{1-4} alkylOR12~~ C_{1-4} alkyl$NR^{12}R^{13}$, C_{1-4} alkylOR^{12}, C_{1-4} alkylhetaryl or may be joined to form a 5-8 membered ring containing an atom selected from SO, or SO_2;

~~R11 is~~ R^{11} is selected from OH, OC_{1-4} alkyl, ~~NR12R13~~ $NR^{12}R^{13}$;

n is 0-4;

where ~~R12 and R13~~ R^{12} and R^{13} are independently selected from H, C_{1-4} alkyl, or may be joined to form an optionally substituted 3-8 membered ring optionally containing an atom selected from O, S, ~~NR14; and R14~~ NR^{14}; and R^{14} is selected from H, C_{1-4} alkyl.

2. (currently amended): A compound according to claim 1 wherein ~~the compound of formula I is a compound of formula II:~~

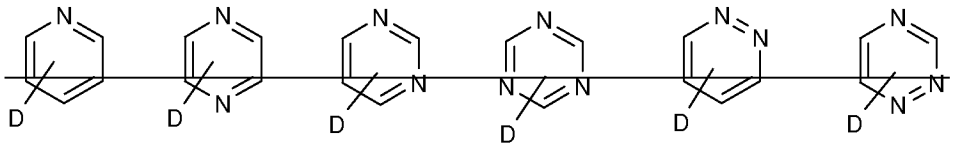


~~II~~

~~or pharmaceutically acceptable prodrugs, salts, hydrates, solvates, crystal forms or diastereomers thereof, wherein:~~

~~X_1, X_2, X_3, X_4 are each carbon where one is substituted with Z and the rest independently with Y; or one of X_1, X_2, X_3, X_4 is N, and the others are carbon where one carbon is substituted with Z and the rest independently with Y;~~

~~A is a ring selected from:~~



~~where D is selected from H, C_{1-4} alkyl, halogen, amino;~~

~~Q is a bond, halogen, C_{1-4} alkyl, O, S, SO, SO_2, CO, CS;~~

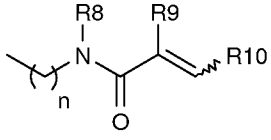
~~W is:~~

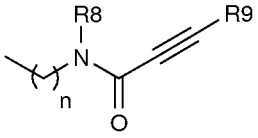
~~(i) NR1R2 where R1 and R2 are independently H, C_{1-4} alkyl, C_{1-4} alkylCF_3, aryl, hetaryl, C_{1-4} alkylaryl, C_{1-4} alkylhetaryl, C_{3-8} cycloalkyl, C_{2-6} alkenyl, cyclohetalkyl, C_{1-4} alkylcycloalkyl, C_{1-4} alkyl cyclohetalkyl, or R1 and R2 are joined to form an optionally substituted 3-8 membered ring optionally containing an atom selected from O, S, NR3; and R3 is selected from H, C_{1-4} alkyl, aryl, hetaryl, C_{1-4} alkyl aryl, C_{1-4} alkyl hetaryl, COR4 where R4 is selected from H, C_{1-4} alkyl, aryl, hetaryl; or~~

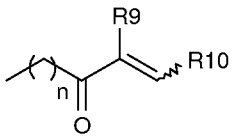
~~(ii) W is H, C_{1-4} alkyl, aryl, hetaryl, C_{3-8} cycloalkyl, cyclohetalkyl, C_{1-4} alkylaryl, C_{1-4} alkylhetaryl, C_{3-8} cycloalkyl, C_{1-4} alkylcycloalkyl, C_{1-4} alkyl cyclohetalkyl;~~

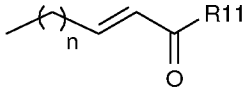
~~Y is H, halogen, CN, CF_3, nitro, OH, C_{1-4}-alkyl, C_{1-4}-alkylNR5R6, C_{1-4}-alkylhetaryl, OC_{1-4}-alkyl, OC_{2-4}-alkylOC_{1-4}alkyl, OC_{1-4}-alkylNR5R6, OC_{1-4}-alkylhetaryl, OC_{1-4}-alkylcyclohetalkyl, SC_{1-4}-alkyl, SC_{2-4}-alkylOC_{1-4}alkyl, SC_{1-4}-alkylNR5R6, NR5R6, NR5COR6, $NR5SO_2R6$; and R5 and R6 are each independently H, C_{1-4}-alkyl, or may be joined to form an optionally substituted 3-6 membered ring optionally containing an atom selected from O, S, NR7 and R7 is selected from H, C_{1-4}-alkyl, aryl, hetaryl, C_{1-4}-alkylaryl, C_{1-4}-alkylhetaryl;~~

Z is selected from:









wherein R^8, R^9, R^{10} and R^{11} and n are as defined in claim 1

~~where R8 is selected from H, C_{1-4}-alkyl;~~

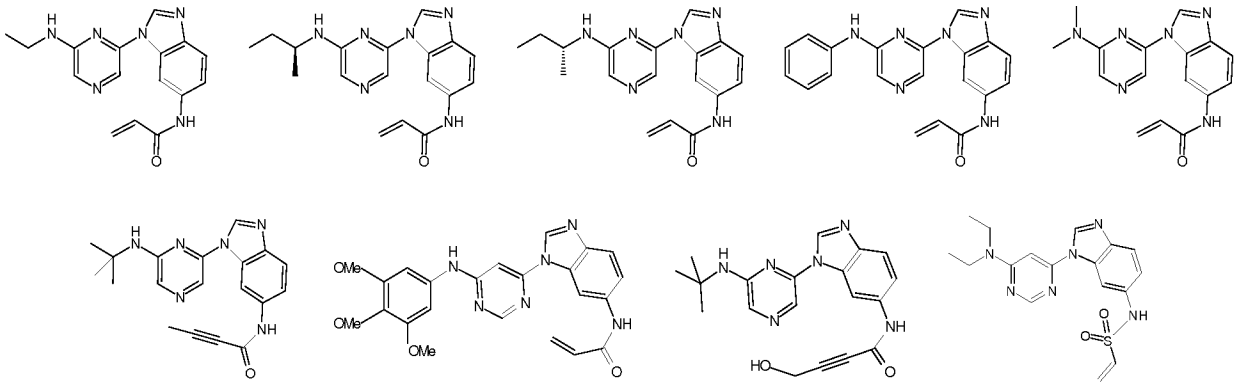
~~R9 and R10 are independently selected from H, C_{1-4}-alkyl, C_{1-4}-alkylNR12R13, C_{1-4}-alkylOR12, C_{1-4}-alkylhetaryl or may be joined to form a 5-8 membered ring containing an atom selected from SO, or SO_2;~~

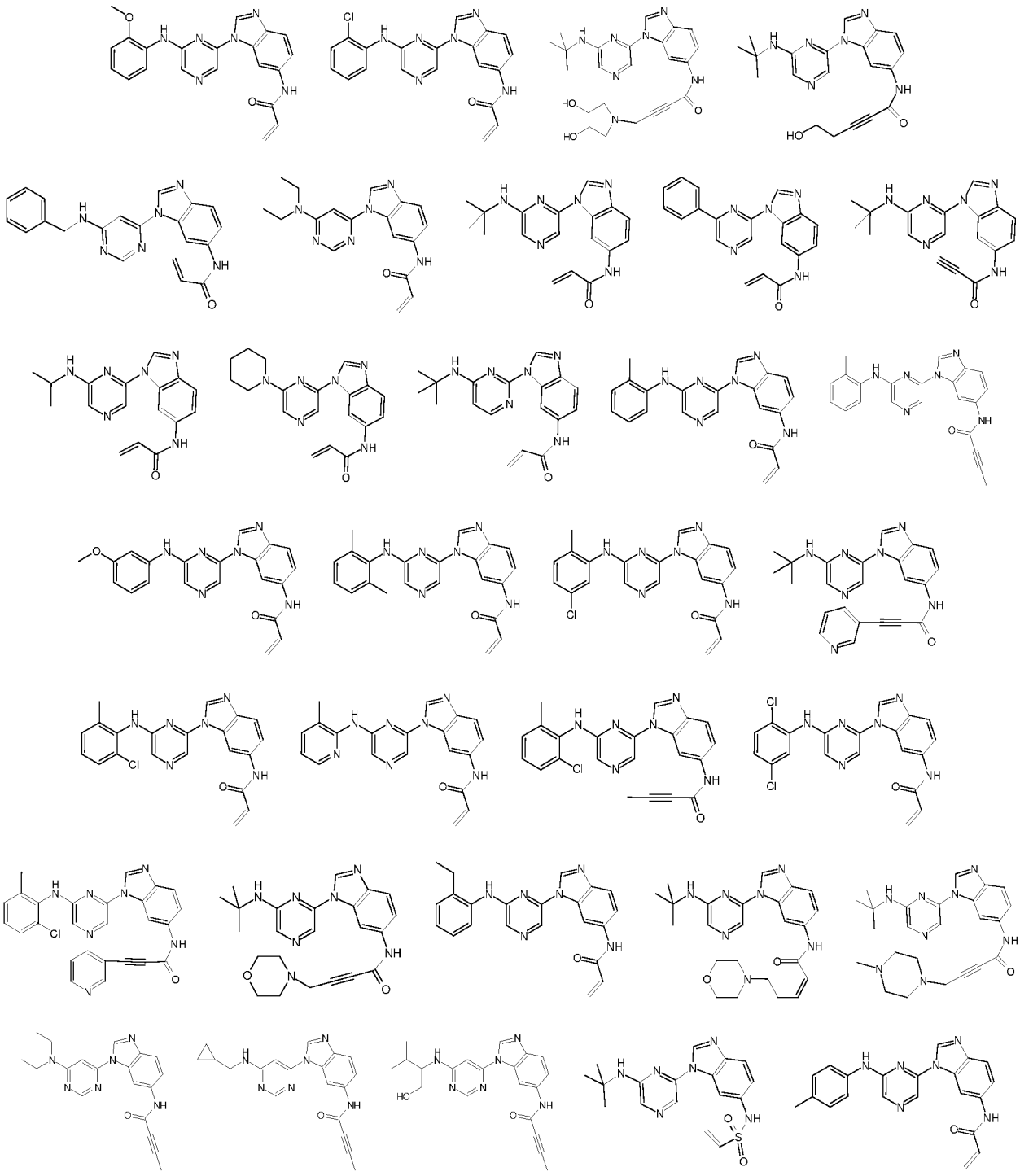
~~R11 is selected from OH, OC_{1-4}-alkyl, NR12R13;~~

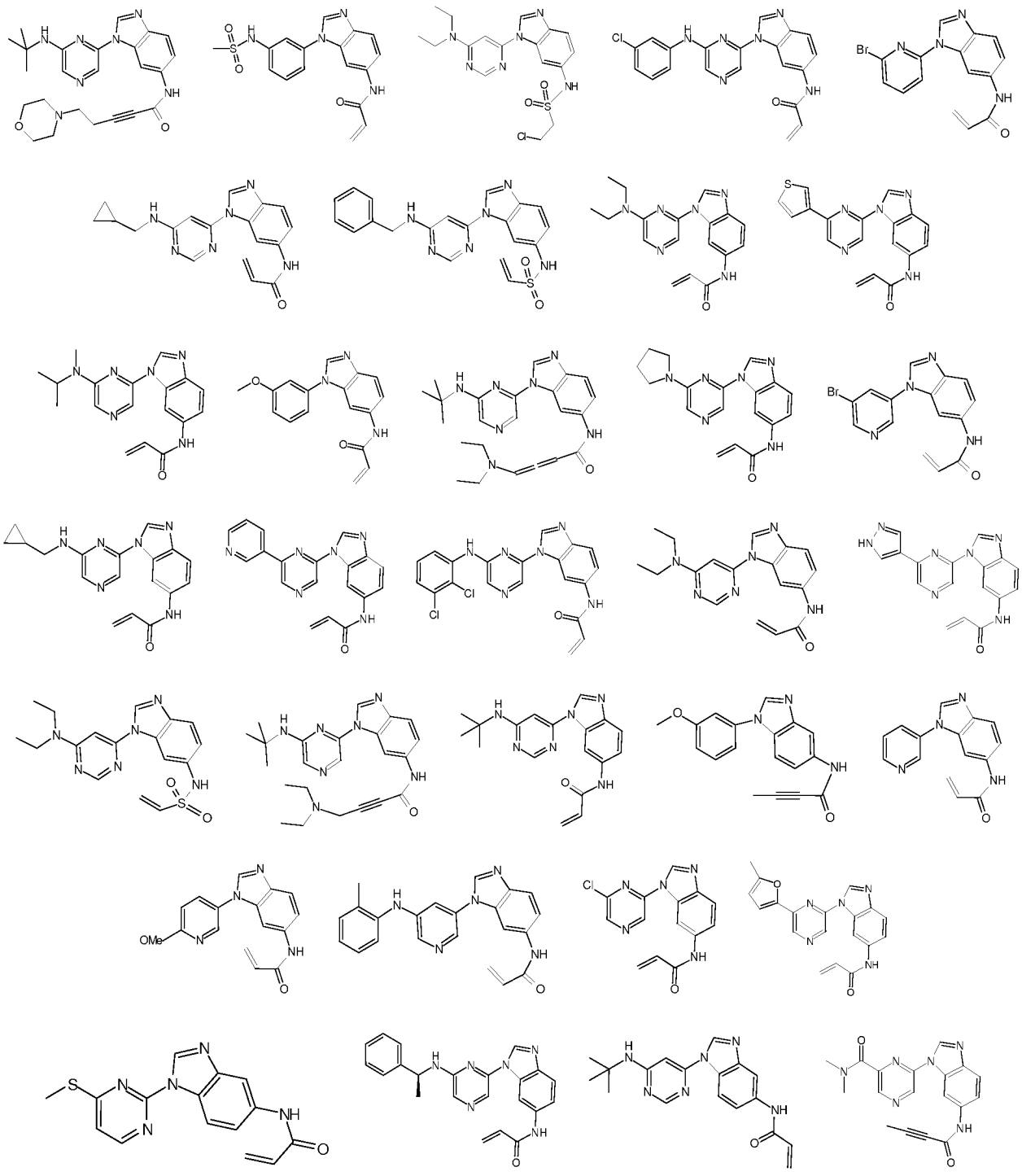
~~n is 0-4;~~

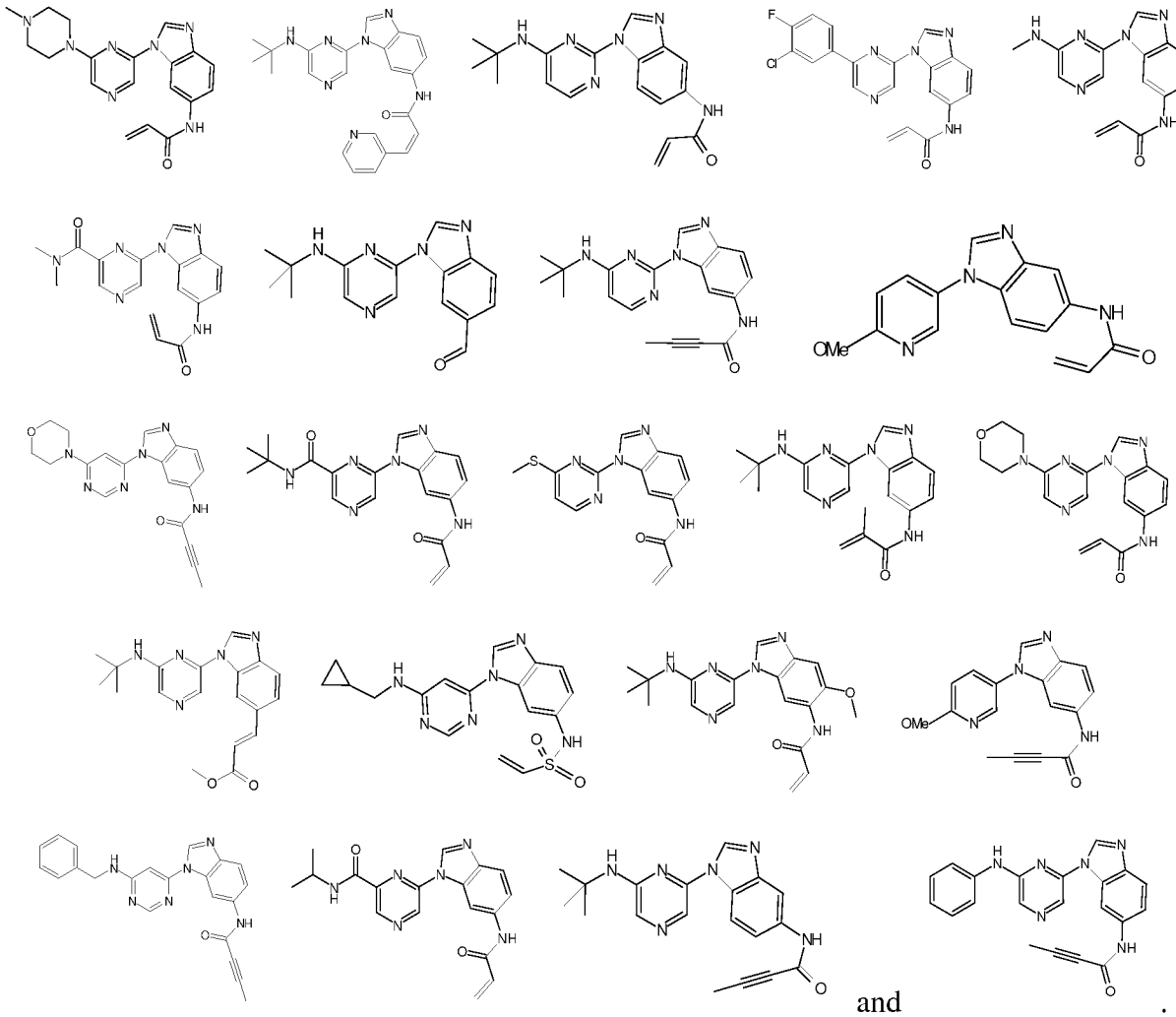
~~where: R12 and R13 are independently selected from H, C_{1-4}-alkyl, or may be joined to form an optionally substituted 3-8 membered ring optionally containing an atom selected from O, S, NR14; and R14 is selected from H, C_{1-4}-alkyl.~~

3. (previously presented): A compound selected from the group consisting of:









and .

4. (previously presented): A compound according to claim 1, wherein the compound irreversibly inhibits JAK-3.

5. (previously presented): A compound according to claim 1, wherein the compound selectively inhibits JAK 3 with respect to JAK 1 or JAK 2.

6. (previously presented): A composition comprising a carrier and a compound according to claim 1.

7. (withdrawn): A method of treating a tyrosine kinase-associated disease state, the method comprising administering a therapeutically effective amount of a compound according to claim 1 or a pharmaceutical composition thereof.

8. (canceled)

9. (withdrawn): A method of suppressing the immune system of a subject, the method comprising administering a therapeutically effective amount of a compound according to claim 1 or a pharmaceutical composition thereof.

10. (original): A selective JAK 3 inhibitor comprising a functionality wherein the functionality is positioned to selectively interact with the Cysteine residue close to the front lip of the ATP-binding cavity of JAK3 (CYS909) whereby the inhibitor is selective for JAK3 with respect to JAK2 and JAK1.

11. (original): A selective JAK3 inhibitor according to claim 10 wherein the functionality irreversibly binds with the Cysteine residue.

12. (previously presented): A selective JAK3 inhibitor according to claim 10 wherein the functionality is an alkylating group.

13. (previously presented): A selective JAK3 inhibitor according to claim 10, wherein the functionality is a Michael acceptor.